DOCUMENT RESUME

ED 136 009 CE 010 046

TITLE	ABGs in Agriculture. Volume One. Final Report. ACTION Evaluation.
INSTITUTION	ACTION, Washington, D.C.
PUB DATE	Dec 75
NOTE	37p.; For a related document see CE 010 047
EDRS PRICE	MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS	*Agriculture; *College Graduates; *Cost Effectiveness; Field Studies; Foreign Countries; *General Education; Higher Education; Job Placement; Manpower Development; Program Effectiveness; Program Evaluation; Research; Success Factors; Voluntary Agencies; *Volunteers; *Volunteer Training
IDENTIFIERS	*Peace Corps

ABSTRACT

Situations and conditions in which Peace Corps volunteers who are ABG's (A.B. generalists, or individuals with a bachelor of arts in English, liberal arts, or social science) are effective in agriculture and the factors which contribute to the ABG's effectiveness were analyzed and assessed in the study. Methodology included an analysis of training and service completion of over 1,600 volunteers, an analysis of costs and cost-effectiveness, an opinion survey of volunteers currently working in agriculture, and field research in 11 Peace Corps countries. Findings indicate the following: ABG's, in general, are effective in that their service record (duration, achievements, etc.) is comparable to other volunteers working in agriculture. They are cost-effective in that their cost per month of service is the lowest in relation to the other skills used in agriculture. ABG's who are specifically trained to perform well-defined, challenging jobs, who are supported with adequate supplies and equipment, and who are given proper supervision perform effectively in agriculture. It is concluded that there is a supply of ABG's and a demand for trained manpower to develop agriculture; it is the responsibility of the Peace Corps to identify the demand which meets the known supply and to program accordingly. (Author/TA)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED136009

CE

ABGs IN AGRICULTURE

VOLUME ONE

FINAL REPORT

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

ACTION EVALUATION

CE 010 046

DECEMBER 1975

TABLE OF CONTENTS

VOLUME ONE	Page
FOREWORD	i
ABSTRACT	ii
EXECUTIVE SUMMARY	1
SECTION I INTRODUCTION	I-1
A. Background	I-1
B. Objective	I-1
C. Terminology	I-1
D. Methodology	I-1
SECTION II FINDINGS	II-1
A. Completion of Training and Service	II-1
B. Costs	II-4
C. Cost-Effectiveness	II-6
D. ABG's Are as Effective as Other Volunteers in Agriculture	II-6
E. All ABG's Are Not Equally Effective	II-8
1. Program Development	II-8
2. Job for ABG's	II-10
3. Qualifications of ABG's	II-11
4. Training of ABG's	II-12
5. Support of ABG's	II-14
6. Supervision of ABG's	II-16
F. The Potential Utilization of ABG's Is Not Being Realized	II-17
SECTION III RECOMMENDATIONS	III-1
A. Respond to Availability Pool	III-1
B. Develop Programmers' Capability	III-1
C. Program Jobs, Not Merely Fill Jobs	III-1
D. Training in the Place Where Training Is Adequate	III-2
E. Assist Host Country Institutions by Providing Supervisory Volunteers	III-2
SECTION IV CONCLUSIONS	IV-1

VOLUME TWO

APPENDICES

I Glossary of Terms

II Methodology
- A. Instruments
  - 1. Project Summary Sheet
  - 2. Management Unit
  - 3. Interview Summary Sheet
  - 4. Questionnaire

III Data Sources
- A. Completion
- B. Costs
- C. Project Analysis
  - 1. Issues
- D. Questionnaire Analysis

LIST OF GRAPHS AND TABLES

		Page
TABLE I	Completion Sample	I-2
TABLE II	Survey Sample	I-2
TABLE III	Field Research	I-3
GRAPH I	Comparison of Completion Rates	II-2
TABLE IV	Average Months of Service for 24-Month Projects	II-3
GRAPH II	Completion Histories	II-4
TABLE V	Trainee Arrival Costs	II-5
TABLE VI	Volunteer Delivered Costs	II-5
TABLE VII	Cost Effectiveness	II-6
TABLE VIII	Goals Fulfillment Responses	II-7
TABLE IX	Training	II-13
TABLE X	Preference of In-Service Training	II-14
TABLE XI	First Source of Supplies and Equipment	II-15
TABLE XII	First Source of Supervision and/on Assistance	II-16
TABLE XIII	Selected Agricultural Indicators for Peace Corps Countries	II-18

FOREWORD

This study was conducted during the course of the calendar 1975. The effort included an analysis of training and service completion of over 1600 volunteers; an analysis of costs and cost-effectiveness; an opinion survey of volunteers presently working in agriculture; and field research in eleven Peace Corps countries.

An abstract, executive summary and final report are contained herein. The appendices form a separate volume.

Acknowledgement is hereby made to those who collaborated in the study, namely:

James Black, Field research in Philippines and Nepal
Gordon Bremer, Field research in Guatemala and Paraguay
Herbert Brownlee, Field research in Dahomey and Sierra Leone
John Gloetzer, Field research in Colombia and El Salvador
Charles Helfer, Completion and questionnaire analysis
Katherine Hoffman, Cost analysis and statistical research
Robert Thurston, Field research in Costa Rica and El Salvador
Fred Weber, Field research in Senegal and Upper Volta
Alan Yockey, Computer Programming

and to the secretaries, Sara Pettiford, Lutetia Hynes and Mary Gordon who typed the draft and final copy.

J. Beausoleil, OPP/E
Washington, D. C.
December 15, 1975

ABSTRACT

This study:

1) Analyzes and assesses the critical programming, training, and support factors which contribute to effective utilization of AB Generalists in Agriculture.

2) Concludes that ABG's who are specifically trained to perform well-defined, challenging jobs; who are supported with adequate supplies and equipment; and who are given proper supervision, perform effectively in agriculture.

3) Identifies as the responsibilities of staff the development of challenging jobs; the provision of necessary training; and the assurance of adequate material and appropriate moral support for the volunteers.

EXECUTIVE SUMMARY

Study Objective

To provide 1) an assessment of the effectiveness of AB Generalists (ABG's) in agriculture and 2) an understanding of the critical programming, training and support factors which contribute to that effectiveness.

Findings

The ABG's working in agriculture complete training and service at a rate comparable to that of the average volunteer.

- For the sample analyzed, ABG's completed training at a rate (82%) slightly but not statistically different from that of the average (84%) volunteer. The training completion rates were:

Ag Degree	86%
Average Volunteer	84%
ABG	82%
Business Administration*	78%
Ag Background	74%

- For the same sample, ABG's completed service at a rate (84%) slightly above, but not statistically different than that of the average volunteer (82%). The service completion rates were:

Ag Degree	87%
ABG	84%
Average Volunteer	82%
Ag Background	77%
Business Administration	74%

The ABG cost $1500 less to recruit and train than the average non-ABG skill.

- Recruitment and training costs, adjusted to reflect training attrition are $2617 for the ABG's, substantially below the other skills used in agriculture.

ABG	$2617
Business Administration	3433
Ag Background	4095
Average (non-ABG)	4173
Ag Degree	4410

* Business Administration: Volunteers with business skills working principally in agricultural cooperatives.

The ABG is the cost-effective skill utilized in agriculture.

- The recruitment, training and support costs adjusted for training and service attrition per month of service of the skills utilized in agriculture are:

	Cost/Month of Service
ABG	$568
Ag Degree	644
Business Administration	650
Average (non ABG)	661
Ag Background	671

ABG's are as effective as other volunteers working in agriculture.

- Field research found that ABG's were as competent in performing their duties and were achieving results comparable to specialists. The volunteers corroborate this observation. The positive responses of ABG's and specialists to the following six questions were:

Question	ABG's	Specialists
1. Fulfillment of Goal 1	52%	56%
2. Fulfillment of Goal 2	65%	58%
3. Fulfillment of Goal 3	34%	31%
4. Language Fluency	47%	22%
5. Relations on the job	38%	28%
6. Relations off the job	38%	30%

Not all ABG's are equally effective.

- The factors which contribute to effective utilization of ABG's are:

1. Program Development
ABG's are effective when they are programmed, i.e. they participate in planned, adequately supported, and properly supervised activities which are directed to a specific time - phased measurable objective.

2. Jobs
ABG's work well in agricultural extension, institutional development, and applied research type jobs when these jobs require only a basic or specific understanding of agriculture but still challenge the ABG's to use other talents.

3. Qualifications
The possession of aptitudes such as a disposition to work in agriculture and attitudes such as interest in people enhance the ABG's effectiveness.

4. Training

ABG's can assimilate sufficient knowledge and acquire skill proficiency through Peace Corps training to function in the types of jobs described above. The training, both pre- and in-service must be appropriate and practical for the specific needs of each project and must be given by technically competent instructors.

5. Support

The host agencies' failure to deliver supplies and equipment is the most frequent and serious obstacle to volunteers in achieving results. ABG's require a minimum investment (less than $500 a year) in job related supplies and equipment.

6. Supervision

Sufficient supervision can be provided to the ABG's by experienced volunteers.

The potential utilization of ABG's is not being realized.

There is an enormous demand for organizers, instructors and managers who can get down to the level of the small scale farm operators, relate to them, gain their confidence and transfer to them knowledge and skills commensurate with their capacity to receive.

Recommendations

Programming

1. Agricultural program officers should respond to the applicant availability pool.

- In developing projects and jobs, staff should program the available skills, i.e. ABG's and other surplus skills, and avoid being placed in a situation where they cannot respond to a skill request.

2. The number of volunteers assigned to each agricultural program officer should be limited.

- To efficiently attend to the many demands of developing, managing, and monitoring agricultural programs, an agricultural program officer should not be responsible for more than forty volunteers.

3. Agricultural program officers should be continually assisted in developing their capabilities.

- The complexity of agricultural development and the uniqueness of the resource (the volunteer) being utilized demand technically qualified and experienced program managers.

4. Agricultural program officers should develop jobs and not merely fill job requests.

- Staff together with the host agency should develop the description, the skill requirements, and the task analysis for each job and not merely accept skill requests.

Training

1. Technical training for agriculture should be provided in that place where it can best be done.

- When technical training material, instructors, and/or facilities are not adequate in the country of intended service, third country or US technical training should be used. The additional costs are compensated by the benefits of more productive volunteer service.

2. In-Service technical training should be provided.

- Some form of technical training conducted with the participation of the volunteers' counterparts or supervisors should continue through service for ABG's.

Support

1. Program budgets should include funds for necessary supplies and equipment.

- Rather than lose a substantial investment in supporting a volunteer who is inoperative because of the lack of supplies and equipment, an additional cost of less than $500 per year can mean the difference between success and failure.

2. Experienced volunteers can be utilized to assist in supervising ABG's.

- To assist host agencies in fulfilling their supervisory responsibility, experienced volunteers can be assigned to host national supervisors to function as assistants and as liaisons between the host agency and the ABG's.

Conclusions

ABG's, in general, are effective in that their service record (duration, achievements, etc.) is comparable to that of other volunteers working in agriculture. They are cost-effective in that their cost per month of service is the lowest in relation to the other skills used in agriculture.

The key variable affecting the service of the individual ABG in agriculture is the job. The kind of job where ABG's are most effective is described as one in which only a basic or specific knowledge of agriculture is needed but

but still challenges the ABG to use other talents. It primarily requires social skills and secondarily technical skills. Such a job only results from the initiative and innovativeness of Peace Corps. Because the ABG is educated, he/she readily acquires the basic or specific agricultural knowledge through Peace Corps training. The ABG performs well with a minimum of supervision. When the ABG with a clearly defined, challenging job is adequately provided with supplies and equipment, he/she performs effectively in agriculture.

The increased costs incurred in properly utilizing ABG's, e.g. program development, quality training. and the provision of essential supplies and equipment, are compensated by the lower recruitment costs of ABG's. These support costs, however, should not be considered additional in that they are required for all volunteers, irrespective of their skill. Specialists as well as ABG's require similar quality support.

In conclusion, there is a supply, i.e. ABG's are available. There is a demand, i.e. trained man-power is needed to develop agriculture. But that demand must be identified. It is the challenge of Peace Corps to identify the demand which meets the known supply and to program accordingly.

SECTION I

INTRODUCTION

Background

The need for trained manpower to develop agriculture in the third world is enormous. Peace Corps contributes to that need by providing experienced and degreed agriculturalists as well as AB Generalists (ABG's). Experienced and degreed agriculturalists are in short supply and requests for these skills are not always filled. There is a surplus supply of ABG's but they cannot be used to substitute for the shortfall of experienced and degreed agriculturalists. ABG's can, however, contribute to agricultural development in particular situations and under specific conditions.

Objective

This study analyzed those situations and conditions in order to: (a) assess the effectiveness of ABG's in agriculture and (b) identify the factors which contribute to the ABG's effectiveness.

Terminology

The AB Generalist or ABG as used in this study, is the holder of a bachelor of arts degree in English, the liberal arts or a social science. The ABG's are either compared to (a) other specific skills used in agriculture; namely, the Ag Degree which includes agriculture or a related field as fisheries or forestry; the Ag Background which refers to those who have had two years of agricultural work experience with or without a degree; and Business Administration which embraces accountants, and economists as well as business graduates or experienced people engaged in agricultural business activities or (b) to all skills in general, i.e. those whose education had prepared them technically for the job which they were performing.

Agriculture is here understood in the broad sense of farming, i. . production of plants and animals. It includes activities related to farming such as irrigation, soil conservation, forestry, fisheries as well as activities supportive of farming, such as credit, production inputs, marketing, etc.

Methodology

The study was conducted in two phases. Phase One was primarily concerned with a quantitative analysis of: a) completion of training and of service rates; b) costs of recruiting, placing and training; and c) cost-effectiveness of the major skills used in agricultural projects. Phase Two's activities were: a) an analysis of the Project Descriptions (104's) and the Management Unit Review

Reports (204's) of current projects, i.e. those presently operating in the field; b) field research in eleven Peace Corps countries; and c) an opinion survey through a questionnaire administered to volunteers working in agricultural programs in those countries with major agricultural programs.

Two populations were studied corresponding to the two phases. For the completion analysis, the population was limited to volunteers who entered service in agricultural projects after July 1, 1971 and before October 31, 1974. Table I below provides details of the completion sample which totaled 1662 volunteers (PCV's) and 423 ABG's engaged in agricultural activities.

TABLE I

COMPLETION SAMPLE

Africa	PCV's/ABG's	Latin America	PCV's/ABG's	NANEAP	PCV's/ABG's
Cameroon	41/2	Brazil	148/7	India	71/7
Dahomey	63/13	Colombia	132/12	Iran	21/0
Liberia	77/6	Costa Rica	75/46	Nepal	132/59
Mali	14/7	Dominican Republic	84/18	Philippines	160/8
Niger	31/15	El Salvador	32/10	Tunisia	17/0
Senegal	31/21	Honduras	52/11	Morocco	32/2
Sierra Leone	28/5	Guatemala	150/80		433/86
Togo	19/14	Nicaragua	63/25		
Upper Volta	23/18	Peru	87/2		
	327/99	Paraguay	35/8		
		Venezuela	44/19		
			902/238		

For the opinion survey, the population was limited to volunteers actively in service in agricultural projects at the time of the survey. Table II provides details on the 385 responses received.

TABLE II

SURVEY SAMPLE

Africa	No. of Responses	Latin America	No. of Responses	NANEAP	No. of Responses
Cameroon	29	Brazil	28	India	14
Dahomey	11	Colombia	9	Iran	0
Liberia	0	Costa Rica	27	Nepal	39
Mali	14	Dominican Republic	15	Philippines	52
Niger	14	El Salvador	24	Tunisia	7
Sengal	18	Honduras	12	Morocco	8
Sierra Leone	24	Guatemala	0		120
Togo	22	Nicaragua	10		
Upper Volta	9	Paraguay	15		
	122	Venezuela	3		
			143		

14

The field research in the eleven countries was conducted by seven people and utilized 142 man-days of work. Table III below details the countries visited and the resources employed.

TABLE III

FIELD RESEARCH

Country	Number of Field Researchers	Working Days
Costa Rica	2	14
Colombia	1	7
El Salvador	2	20
Dahomey	1	2*
Guatemala	1	10
Nepal	2	22
Senegal	1	12
Paraguay	1	10
Philippines	2	24
Sierra Leone	1	19
Upper Volta	1	2*
		142

*Political tensions caused visits to be shortened.

SECTION II

FINDINGS

The completion analysis reveals that the training and service completion rates for ABG's are comparable to that of the average volunteer. The cost analysis shows that ABG's are the least expensive skill utilized in agriculture particularly because of the low recruitment cost and average training and service completion. Effectiveness of ABG's depends on a combination of factors, i.e. an intelligent, educated and motivated person assigned to a job which requires only basic or specific skills which can be acquired through training and for which adequate support and appropriate supervision is available. Agricultural development in most of the Third World countries needs the kind of trained manpower which the average ABG can provide. The following elaborates on these findings.

ABG's Complete Training and Service at a Rate Comparable to the Average Rate of Other Skills in Agriculture.

The ABG's complete training and service at a rate below the Ag Degree Skill but above the Ag Background and Business Administration* skills. The ABG's completion rate is comparable to the rate of all volunteers irrespective of skill. Graph I illustrates these rates for the four skills and the average rate for all volunteers.

On the average, 84% of the trainees are sworn in as volunteers. Only the Ag Degree skill completes training at a higher rate (86%) than this average. The 82% training completion rate of the ABG's, however, is not statistically different than the average. The Business Administration (78%), and Ag Background (74%) rates are below the average completion rate by 6% and 10% respectively.

The service completion rates show the ABG (84%) and the Ag Degree (87%) above the average IO-wide completion rate (82%) with the Ag Background (77%) and Business Administration (74%) significantly below the IO-wide average (82%). This completion rate is the time adjusted volunteer man-month completion rate. It is the percentage of the time served over the time elapsed. It aggregates the service completion histories of projects with different elapsed life spans from six months through twenty-four months.

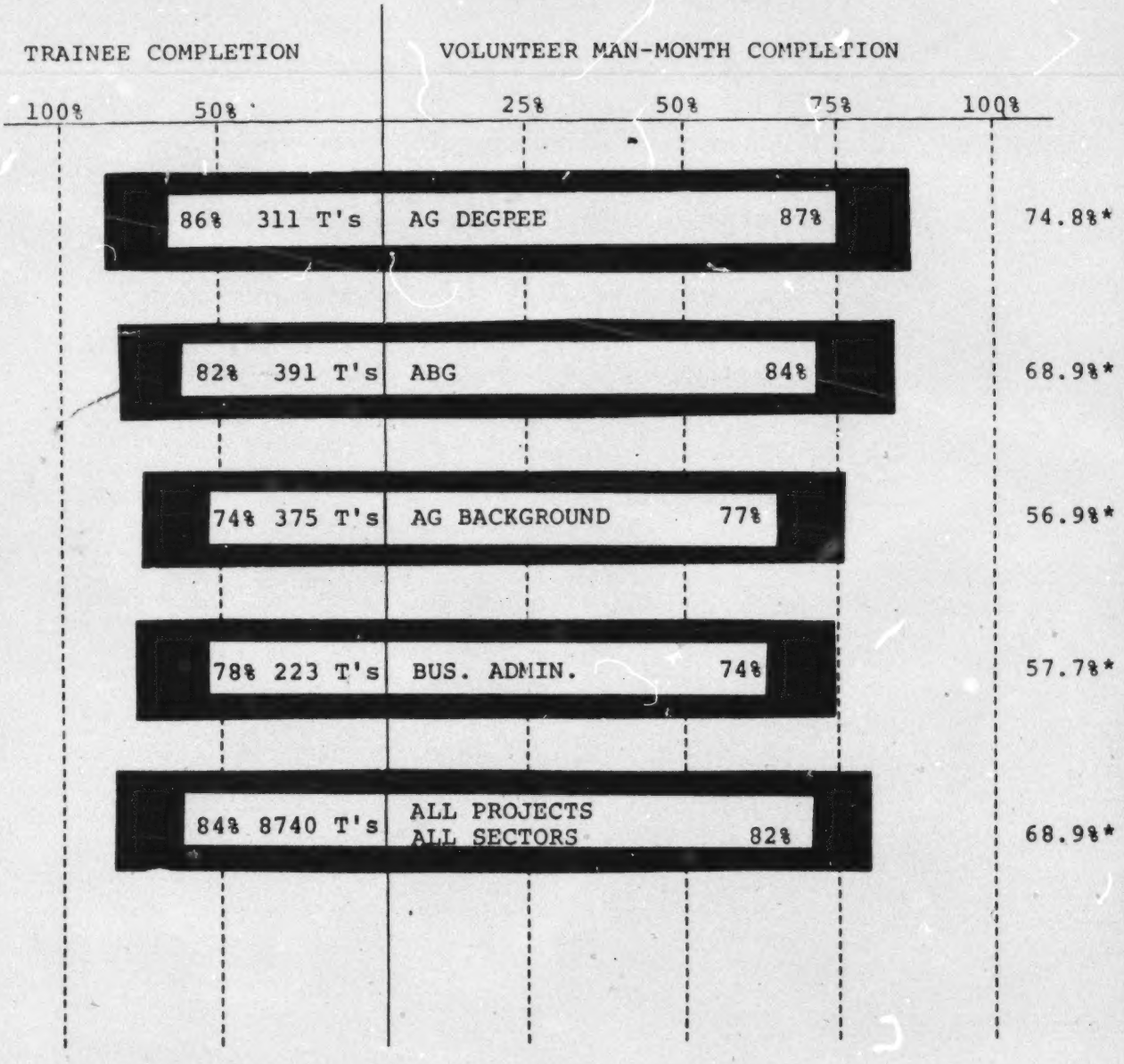
When the service completion rate is adjusted to reflect training attrition, the ABG equals the IO-wide average (68.9%). The ABG is below the Ag Degree (74.8%) but above both Ag Background (56.9%) and Business Administration (57.7%).

---

* Business Administration: volunteers with business skills working principally in agricultural cooperatives.

GRAPH I

COMPARISON OF COMPLETION RATES
IO-WIDE, AG SECTOR



* Volunteer completion adjusted to reflect training attrition.

Another service completion rate is the volunteer man-month completion rate for twenty-four month projects. This rate is easily converted into months of service. Table IV below compares the skills in terms of average months of service obtained in a twenty-four month tour. The ABG Volunteer averages 1.4 months less than the Ag Degree Volunteer, about two months more than the Ag Background Volunteer and about three months more than the Business Administration Volunteer. It should be noted that the data supporting the months of service is from completed projects. The data for the time adjusted volunteer completion rate includes projects at 6, 12, 18 and 24 months. Thus, the difference between the man-month completion and the time adjusted completion rates is not exactly the same. The pattern, however, is similar showing the Ag Degree completing more months, the ABG close to the average, and the Ag Background and Business Administration completing the lowest number of months.

TABLE IV

AVERAGE MONTHS OF SERVICE FOR 24-MONTH PROJECT
IO, AGRICULTURE

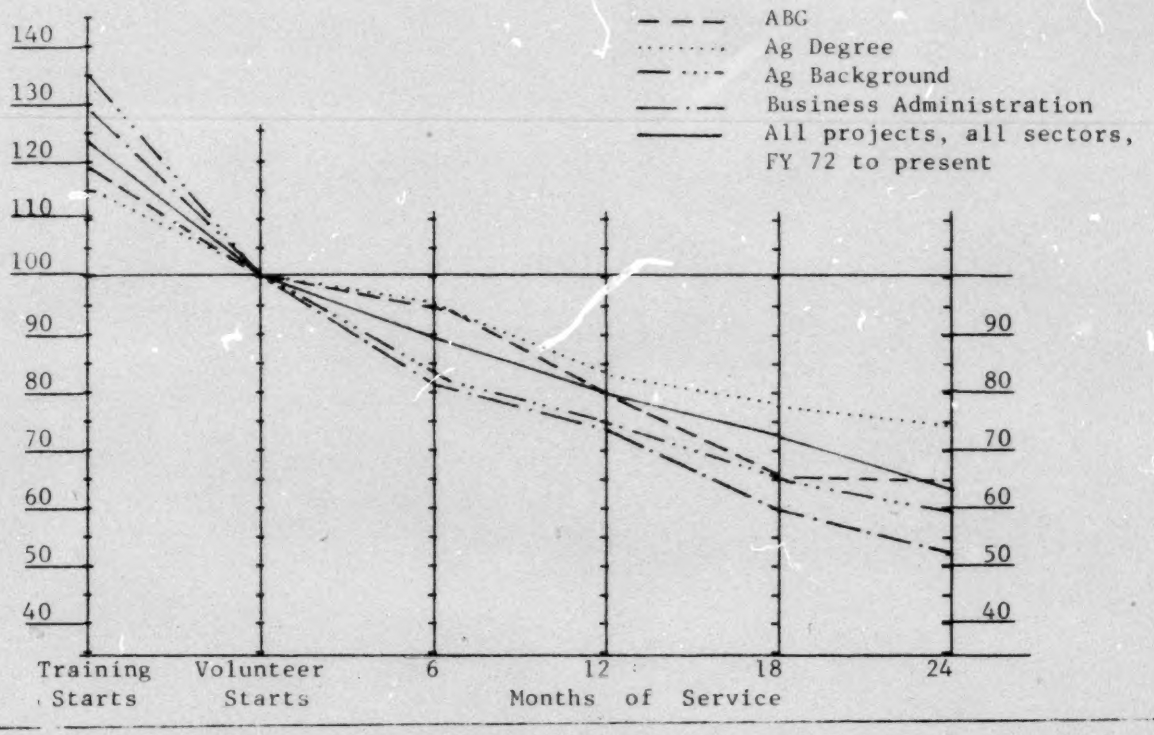
Skill	Sample Size	Months
Ag Degree	118	20.4
ABG	142	19.0
IO-wide Average	2354	18.7
Ag Bk.	164	17.3
Bus. Ad.	101	16.1

Another way of comparing completion of service is by the active volunteer rate, i.e. the number of volunteers on board. This rate is illustrated in Graph II . The graph focuses on one hundred volunteer starts and follows the on-board strength through intervals of six months of service. It also relates the one hundred volunteer starts to trainee starts.

The number of volunteers completing service out of 100 volunteer starts is 65 for the ABG which is below the Ag Degree of 74, near the IO-wide average of 63, above the Ag Background of 59 and Business Administration of 52. The trainees required for each 100 volunteer starts were 116 Ag Degrees, 119 ABG's, 129 Business Administration and 135 Ag Background.

GRAPH II

COMPLETION HISTORIES
(Standardized to 100 Volunteer Starts)



In summary, the relationship of the four skills to each other and to the IO-wide average remains the same whether analyzed by a time adjusted volunteer man-month completion rate, the man-month completion rate for twenty-month projects, or active (on-board) completion rate. The ABG completion of service history is similar to the IO-wide volunteer. The Ag Degree completes more and the Ag Background and Business Administration less service than that of the average IO- wide volunteer.

The Recruitment and Training Costs of an ABG are $1,500 less than the Ag Degree and Ag Background Skills.

Significant cost variations exist in the recruiting and processing of persons designated for service in the Agriculture Sector. The cost involved in placing specific skills into training is a function of their availability. The scarce Ag Degree skill costs nine times more to recruit and process than the surplus ABG's. Table V details these costs and the cost differences in relation to the ABG's.

TABLE V

TRAINEE ARRIVAL COSTS *

Cost		Comparison with the ABG
ABG	$ 198	- 0 -
Ag Degree	1845	+ $1647
Ag Background	1082	+ 884
Business Administration	730	+ 532
Average (Non-ABG)	1432	+ 1232
	1432	+ 1232

*Recruitment and processing costs as calculated by the Office of Recruitment and Communications (ORC) based on FY 74 actual expenditures.

Once in training, however, the cost per trainee does not vary by skill category: Agricultural trainees usually receive the same amount of training regardless of their individual skill backgrounds. In FY 74 the IO-wide average length of training for an Agriculture Sector project was approximately eleven weeks and the average pre-service training cost (based on in-country and contract training costs) per trainee was $1,948. The variations in the cost of providing a person for service, i.e., per volunteer delivered is largely a function of the front-end costs associated with recruiting and processing the applicant. Adjusting these costs by the respective trainee completion rate for each skill reveals the average cost per volunteer delivered in the Agriculture Sector. Table VI displays these costs and compares them to the ABG.

TABLE VI

VOLUNTEER DELIVERED COSTS *

Cost		Comparison with the ABG
ABG	$2617	- 0 -
Ag Degree	4410	+ $1793
Ag Background	4095	+ 1478
Business Administration	3433	+ 816
Average (Non-ABG)	4173	+ 1556

*Recruitment, processing and training cost per trainee adjusted for the trainee completion rates by skill category and base on FY 74 actual expenditures.

It is apparent from this table, that recruiting and training the ABG skill for agriculture service is the least costly method of delivering agricultural manpower. The cost of delivering the ABG is approximately $1,500 less than that of the agricultural volunteer with an Ag Degree or Ag Background skill.

The ABG is the Cost-Effective Skill Utilized in Agriculture

The cost per month of service for the ABG is substantially lower than that of the other skills used in agriculture. The cost of the ABG is affected by low recruitment cost and average training and completion rates. The high recruitment cost of the Ag Degree is compensated by favorable completion rates making this the next lowest cost. The Ag Background whose cost is aggravated by unfavorable completion rates, has the highest monthly cost. Table VII illustrates the extent to which the ABG is the cost-effective skill used in agriculture.

TABLE VII
COST-EFFECTIVENESS

	Cost	Compared with the ABG*
ABG	$568	-0-
Ag Degree	644	+ 76
Ag Background	671	+ 103
Business	650	+ 82
(Average (Non-ABG)	661	+ 93

*Cost for the volunteer delivered and cost for a return trip home per month of expected service plus one month's support cost.

Cost-effectiveness is used in a limited sense in the above context. It is an attempt to express expenditures in relation to benefits. The cost expenditures are the recruitment, training, and volunteer support cost but not the administrative costs. The effectiveness or benefits are limited to the months of service and do not consider other results. This use of cost-effectiveness does, however, provide a measure which can be used to compare the different skills utilized in agricultural projects.

ABG's Are as Effective as Other Volunteers Working in Agriculture.

To say that volunteers are effective is to say that they produce results. Results can be viewed from the perspective of the volunteer experience and fulfillment of the Peace Corps goals or can be viewed from the perspective of the job and accomplishments. Effectiveness can also be understood as the possession of the power or skills to produce the results, i.e. the competency of the producer.

ABG's appear to fulfill the Peace Corps goals as well as other volunteers. Goal One, meeting the needs for trained manpower, is as often fulfilled by the ABG as by the specialist volunteer. Goals Two and Three, promoting a mutual understanding between Americans and the host country people is more likely to be fulfilled by the ABC's than by the specialists since the former tend to have greater opportunity for cross-cultural experiences. The questionnaire responses shown in Table VIII support this observation of the field research. The ABG volunteers responded almost as positively about Goal One as the specialists and slightly more positively on Goals Two and Three. The ABG felt more fluent in the language and felt more positive about his/her relations with host nationals on and off the job. It can be said that with respect to fulfillment of Peace Corps goals ABG's are as effective as specialists volunteers.

TABLE VIII

ABG's IN AGRICULTURE QUESTIONNAIRE
GOALS FULFILLMENT RESPONSES

Question	ABG's	Specialists
1. Fulfill Goal 1	52%	56%
2. Fulfill Goal 2	65%	58%
3. Fulfill Goal 3	34%	31%
4. Language fluency	47%	22%
5. Relations on the job	38%	28%
6. Relations off the job	38%	30%

Host country nationals consider volunteers effective when they fulfilled their job objectives. The field researchers observed that host country nationals praised job accomplishments of ABG's as often as specialists. Peace Corps field staff commented in the same way. The volunteers response in the questionnaire to "How do you rate your job performance?" was more positive for the ABG's (61%) than for the specialists (53%). This response, although not statistically different, does support the statement that the ABG is as effective as the specialist with respect to job performance.

When effectiveness is equated not to the results but to the possession of the skills which produce the results, the ABG's also appear to be equal to the specialists. Most of the jobs performed by ABG's in agriculture require social in addition to agricultural skills as the ability to communicate, to instruct, etc. One Minister of Agriculture recognized this when he requested ABG's who could communicate and could train his technicians to communicate. The ABG's competency includes skills other than technical. The response to the question

"How competent do you feel you are in performing your job?" was slightly more positive but not statistically different for specialists (70%) than for ABG's (65%). For those volunteers who had completed a year of Service, the response for both ABG's and specialists was equally positive. ABG's are as effective as specialists with respect to the possession of the skills needed to perform their jobs.

If the assumption is that specialists are effective, then the ABG's can be considered effective because the ABG's measure up to the specialists in fulfillment of the Peace Corps goals, in job accomplishments, and in possession of required skills to produce results.

All ABG's Are Not Equally Effective

ABG's taken as a group are effective, but not all ABG's are equally effective. There are various programming, training, and support variables which affect the quality of that service. These variables are discussed below in an effort to identify the contributing and/or constraining influence on the effectiveness of the ABG's.

1. Program Development. The agricultural programs utilizing ABG's have been almost exclusively the result of the initiative of Peace Corps. This is logical since Peace Corps understands not only the potential of the ABG's but also the kinds of programs and jobs in which the ABG can be utilized. The obvious concern of the host country is not the ABG but rather is obtaining needed skills for vacant positions in existing programs. If programs are to be developed for ABG's, Peace Corps cannot wait for the host country but must take the initiative.

Taking the initiative does not mean that program development proceeds without the participation of the host country nationals. Host country participation in program development is essential particularly by the cooperating institutions and by the intended beneficiaries of the project being considered. Officially the host country will have to approve the requests for volunteers and so they too should be made aware of the intentions during the initial stage and be continually informed so that once the project is designed, their authorization will be easily obtained.

Field researchers, however, observed that in many instances the host country participation is not being realized in a manner conducive to the generation of projects in which ABG's can be utilized. Many Peace Corps programmers relate more at the official levels, i.e. the minister of agriculture or the directors of a division, agency or institution serving agriculture than to the working levels, i.e. the chief of a regional extension team, the head of a research station, the manager of an agricultural cooperative. The project then develops more from the perspective of those who have indirect contact rather than direct contact with the problems.

agreement but rather accept the proposals even when they are difficult or impossible to execute.

Some programmers, however, are often forced by circumstances to relate more at the official than the working levels. Although few complaints were heard, it was obvious to the field researchers that most programmers are over extended. Not only do they have too many volunteers under their responsibility, but they have too many duties. The immediate demands are usually program management. They spend a good deal of their time attending to the needs of volunteers. They have little time for program development. As a result, investigation of the proposed project site is superficial. They do not meet and exchange ideas at the working level of the sponsoring institutions nor with the intended beneficiaries. The proximity of the host country officials, however, makes it convenient to relate to them. They are usually located in the same capital city and can be reached by phone. This observation is not to infer that programmers are not talking with host country nationals at the working or recipient levels but rather to emphasize the point that there is a tendency to relate more at that level which is not directly in contact with the problems.

There are also field staff people who feel that the official level contact in program development is appropriate to Peace Corps. They believe that the host country officials know their needs and priorities and understand their people and culture. They should tell Peace Corps and not Peace Corps them. These staff people are wary of imposing Peace Corps' ideas on the host country and so prefer to cooperate with the host country officials by responding almost without question to their requests. The position of these staff people is basically passive.

Host country officials usually react to a passive position on the part of programmer by proposing that Peace Corps make available to them specific skills. Program development is then reduced to mere requesting of skills. The programmer accepts the list of skills and prepares a project description. The project description fails to reflect reality because of insufficient participation by those who will be involved or be the recipients and because the host country official has not clearly communicated his ideas to the programmer.

The consequences of allowing host country officials to determine rather than authorize skill requests are often detrimental to program execution. Because many host country officials see Peace Corps as another development association organization similar to USAID, UNDP, etc. which provide technical assistance, they will request skills beyond Peace Corps ability to deliver. Peace Corps will either not find the skill requested or will deliver a person who is not as qualified as the host country official expected. When volunteers do not meet host country expectations, the host country loses confidence in Peace Corps. Unfortunately, a volunteer who does not meet the qualifications requested by the host country is often regarded as a generalist since he did not come up to the level of specialization expected.

Even those host country officials who understand Peace Corps, often do not fully comprehend the qualifications required for the jobs. The reason is that these officials have only indirect responsibility for the jobs for which the skills are requested. Removed as they are from the operational level, they can hardly be expected to specify the qualifications for the jobs. And the requests often result in skill mismatches.

And even the host nationals who have a precise understanding of the jobs often equate the possession of a degree with expertise. Or they will require a degree because of the prestige that the bearer brings to their organization. This happens quite frequently. A number of volunteers commented on the questionnaire that the host country requested a graduate degree when a bachelor's was sufficient or an agricultural degree when the job required agricultural experience.

When Peace Corps programmers allow the host country officials to assume the predominant role in program development, the direction is toward specialists and away from generalists requests. The programming function tends to be reduced to job placement. Under these circumstances, projects for ABG's rarely are developed.

In summary, the conditions for the development of programs for ABG's are a)that Peace Corps take the initiative and b)that they are designed with the participation of host country nationals. The initiative of Peace Corps includes the volunteers as well as staff and does not preclude Peace Corps' seeking advice from USAID or other developmental assistance organizations. The participation of the host country nationals is essential at the levels of the sponsoring institution and of the intended beneficiaries in determining the details of the project. The host country officials can give direction, priorities and, of course, will have to approve the requests for volunteers. An example of an ABG project which developed from the initiative of Peace Corps with the participation first of the working level and then the official level host country nationals is the Swamp Rice Project in Sierra Leone.

2. Jobs for ABG's. ABG's were found to have jobs ranging from working with small scale farmers to programming in an office of the ministry of Agriculture. The most common type of jobs for ABG's were in extension. Many ABG's also worked in institutional development. Some had jobs in applied research.

Extension type work usually involved the transfer of a new technology to small scale farmers. The volunteers seemed most satisfied when that technology was proven and profitable to the farmer. Most of the work was crop extension, some was animal extension, particularly small animals (poultry, rabbits, etc.). Also extension was being performed in fisheries (fresh water ponds) and forestry (reforestation). At times the extension work was connected with a credit program. Demonstration plots was one method used, but most of the work was on a one-to-one basis with individual farmers.

Institutional development entailed organizational or managerial work with farmers' associations. These associations usually took the form of cooperatives, which engaged in farm input, (credit, supplies) or marketing (assembling, storing, selling) activities.

The applied research projects were mainly field testing of new varieties which had been developed at an experimental station. These projects often included a follow up extension phase.

Having analyzed these various types of jobs, it was concluded that the characteristics of jobs suitable for ABG's are those which require only a basic or specific understanding of agriculture, but still challenge the volunteers to use other talents. They are jobs in which social skills are primary and technical skills are secondary. This is the consensus of host country nationals, trainers, programmers and volunteers both specialists and generalists.

There are many jobs with these characteristics in the countries where Peace Corps operates. The majority of farmers in these countries can be classified as small scale operators. Their farming is basic and their knowledge of modern practices is often minimal. Extensionists are needed to communicate to them improved technology. And the extensionist does not have to be degreed in agriculture but rather skilled in human relations. The job is one of obtaining from the farmer acceptance of new techniques and of training them to apply them. The U.S. Cooperative Extension Service began this way. It was not the agricultural technicians but trainers who transferred technology to the farmers. The state of development of farming in most of the Peace Corps countries is similar to conditions as they existed in the United States when the Cooperative Extension Service began. This is not to say that agricultural technicians are not needed. They are needed, but those capable of transferring technology are also needed, and are needed in great numbers.

Institutional development also requires many jobs in which an agricultural degree is not a necessary qualification. This is particularly true of institutions not directly involved in the production process as marketing associations, farm supply cooperatives, etc. Promotional, organizational and managerial skills are needed to develop these institutions.

Applied research can utilize the skills of ABG's, particularly the ABG's with a social science background who are knowledgeable in research techniques which can easily be applied to agriculture.

The type of job is key to programming of ABG's. The job must be well defined. The volunteer who has a well defined job appeared more satisfied and coped with frustrations more easily. When the job is well defined, the ABG's know what is expected of them and are better able to prepare themselves to be responsive to the demands of the job. The questionnaire responses support this observation. Those volunteers who felt competent in their job and felt their job performance was good, also considered their job to be well defined.

3. The Qualifications of ABG's.

There is consensus that ABG's should possess certain attitudes and aptitudes in addition to a basic understanding of agriculture. Host country nationals who had had experience with ABG's emphasized such attitudes as commitment to the project and interest in people. Even those nationals who rejected the ABG because of negative experiences did so not solely because of their lack of technical qualifications but also because of undesirable attitudes.

Peace Corps staffers emphasized aptitudes such as language or farming as evidienced in a rural background or experience. They considered the ABG trainable. The necessary technical skills can be learned by the average ABG during pre-service training to a sufficiency which allows them to begin to work. Also the average ABG has the aptitude to improve his/her technical knowledge by study, experience, and/or seeking advice. Volunteers recognized the need for qualifications other than an agricultural degree. Both specialists and ABG's considered such attitudes as motivation, patience, flexibility to be of primary importance. Aptitudes often referred to by volunteers were the ability to work with people, to communicate, to adapt to physical conditions, etc. One agricultural degreed specialist emphasized the importance of social skills by stating, "The problem is motivating people. My skills in horticulture are superfluous." The remark may be hyperbolic but does reiterate the opinion of many volunteers both specialists and generalists.

Different jobs call for distinct aptitudes and attitudes. They should be identified and described in the project description (104's) so that placement officers can select those ABG's who more closely match the qualifications and so that the ABG invitees are informed of what is expected of them. When this was not done in an agricultural extension project in Nepal, the results were disastrous. Not only did the project suffer from high attrition but also the poor performance of the volunteers was responsible in great part for the government's decision not to renew the project nor request ABG's in the future. A similar project in the same country using ABG's in extension work where specific attitudes and aptitudes were identified had low attrition, satisfied volunteers, and a high extension rate.

4. The Training of ABG's. It is evident that ABG's can be trained to perform effectively in agriculture. The overwhelming majority of volunteers responded positively on the ABG Questionnaire to "AB generalists, i.e. graduates with liberal arts degrees, when trained to do specific tasks can perform effectively in agricultural projects." Almost 85% agreed with this statement. The responses of PCV's, HCN's and Peace Corps staff who were interviewed in the field were similar. Peace Corps has demonstrated the ability to train ABG's for effective service in agriculture. The BASICO experience is one where Peace Corps used a contractor to prepare ABG's for the countries in the Latin American region. Countries in the Africa and the NANEAP Regions have conducted their own training programs making extensive use of volunteers and former volunteers under personal service contracts.

The kind of job is important in determining whether the ABG can be trained adequately. It must be one in which only a basic or specific knowledge of agriculture is required. The technical training must be specifically designed to meet the needs of the jobs and project. The ABG must be able to acquire sufficient knowledge during the eight to twelve week pre-service training course to initiate his/her work. During service he/she can only expect sporadic training opportunities or at best periodic visits by technicians. The average ABG however, is conditioned by the education which he/she has received to respond favorably to this kind of a learning situation.

On the average, it does not require more time or effort to train an ABG than a specialist. Both must acquire agricultural knowledge specific to the climatic, ecological and physical conditions of the country and the distinct regions within the country. The training provided the volunteers who responded to the questionnaire averaged 12 ½ weeks both for ABG's and for specialists. Table VIII below details the weeks of training provided the volunteers in the survey sample.

TABLE I

ABG's IN AGRICULTURE QUESTIONNAIRE
TRAINING

Weeks of training	0-6 wks	7-9 wks	10 wks	11 wks	12 wks	13-14 wks	15 or more
ABG's	11	10	17	17	47	21	8
Specialists	17	21	38	13	83	33	18

	Total Number of Observations	Average Number of Weeks
ABG's	131	12.25
Specialists	223	12.25

Almost all training is presently being conducted in the country of intended service. This is appropriate for teaching language and cross cultural studies since it affords the trainees maximum exposure to conditions in which they will work and live. Technical training, however, is distinct for each project. The training material must be designed, the instructors qualified, the facilities developed for every project. Conducting the technical training in country before the capabilities exist has been negative resulting in abnormal training attrition and subsequent volunteer dissatisfaction with unusual numbers of early terminations. Whereas, technical training provided by qualified institutions in the U.S. or in third countries has been effective in producing satisfied and competent volunteers.

Most volunteers feel the need for additional technical training in the early months of their service. Once they have settled in and have come to know their job, they begin to identify specific needs. Timely technical workshops and conferences have contributed to the volunteers' effectiveness particularly when the workshop or conference included the host country supervisors and counterpart .

Agricultural volunteers, especially ABG's can make effective use of technical information. The availability of or advice on where to obtain technical information is a great help to agricultural volunteers who are capable of applying the information to their work. The field and the Washington office have been excellent sources of such material and information. One commendable source is the P&T Journal which has consistently carried reports on successful agricultural projects which lend themselves to replication in other parts of the developing world

On the questionnaire, 93% of the volunteers responded that in-service training was needed. As to the kind of training, the volunteers, including specialists, cited workshop and conferences, visits by technicians and on-the-job training as seen in Table X.

TABLE X

ABG's IN AGRICULTURE QUESTIONNAIRE

Preference of In-Service Training

	ABG's (126)	Specialists (221)	Total (347)
Formal Courses	7%	9%	8%
Conferences on workshops	21%	28%	25%
On-the-job training	27%	27%	27%
Visits by technicians	25%	14%	18%
Study	8%	8%	8%
Other	6%	7%	7%
Not needed	6%	8%	7%

Beyond saying that the ABG can be trained, that the training should include both pre-service and in-service components, and that it should be specific and practical, there is no established norm or model. Each training program for ABG's should be specifically designed to meet the particular requirements of the jobs. This means that the skill requirements must be identified, the appropriate tools designed to teach these skills, and instructors qualified to do the specific training.

5. Support of ABG's. Support can be understood as material, i.e. supplies and equipment; moral, i.e. encouragement; or technical, i.e. advice. Some volunteers complain about the lack of staff site visits but almost all find that staff is accessible in the office for consultation on personal or technical matters. Lack of material support is a serious problem. Supplies and equipment needed to do the job were not delivered as promised, were not available, or were costing excessive time and effort to obtain.

Transportation was singled out as necessary equipment especially for extensionists. The lack of transportation created inefficiences for the volunteer especially those who had to depend on a public vehicle. The problem has been resolved in the Philippines where the government has established a fund from which the volunteer can borrow to purchase a motorcycle on the condition that the need is justified and approval is obtained from the country director. The host agency then contributes a month stipend to help defray expenses and repay the loan.

The sources of supplies and equipment are primarily the host agency, followed by Peace Corps and thirdly international organizations. Host agencies are somewhat reluctant to support volunteers who are not specialists. ABG programs, which have socio-economic implications, usually can find support from international assistance organizations. The responses to the Questionnaire (Table XI) show that 25% of the ABG's and 50% of the specialists received their primary support from their host agency.

TABLE XI

ABG's IN AGRICULTURE QUESTIONNAIRE

First Source of Supplies and Equipment

Source	ABG's (125) ⟶	Specialists (216) ⟶	Total (341)
Host Country Agency	25%	51%	41%
Peace Corps	31%	22%	25%
International Organizations	34%	13%	20%
Other	12%	14%	14%

The adequacy of supplies and equipment was judged unsatisfactory by almost half of the volunteers. The majority of volunteers also considered inadequate supplies and equipment as the first or second constraint to achieving results. Host country agencies cannot be depended upon to fulfill their commitments. More often than not the developing country is operating in deficit. Revenues do not meet expenditures and the host agencies are forced to make budgetary reductions. The first items to go are support, e.g. supplies, travel, conferences and not administrative, e.g. wages and salaries, expenditures. Even when an agency is operating with adequate financing, as in the case of a project supported by an international loan, the bureaucracy often interrupts the administrative process and disbursement for supplies and equipment is slow. The volunteer who is working under a two year time frame finds waiting frustrating. And justifiably so. It is difficult for volunteers to stand by and wait. But there are some who accept the circumstances and do nothing. Others terminate early. Whatever, lack of supplies and equipment leads to inefficiencies. In monetary terms, the cost of supplies and equipment is small in proportion to the total volunteer support cost. And volunteers find it difficult to understand why Peace Corps will field more volunteers at great costs and fail to support present volunteers with adequate supplies and equipment with only a part of that cost.

6. Supervision of ABG's. The host country institution is supposed to provide for the supervision of volunteers. It was observed that many volunteers working in agriculture are receiving only minimal supervision. This was especially true of volunteers whose work placed them at a distance from the offices of their agency. The ABG's were often found in this kind of a situation.

Distance was not the only reason explaining minimal supervision of volunteers. In some cases, it was indifference on the part of the host country agency. The agency may have accepted volunteers because it was politically expedient. They were not convinced of the benefits of having volunteers and so made no effort to direct them. Or the agency may have requested and accepted the volunteers without the participation of those with whom the volunteers would be working, e.g. the supervisors. Supervisors who have not participated in the decision to utilize volunteers and in their selection often react by treating the volunteers indifferently. However explained, when the lack of supervision by the host agency is tantamount to indifference and is so interpreted by the volunteers, their work is affected adversely.

Many ABG's however, are satisfied with minimal supervision. They prefer to work unincumbered by bureaucracy which most have not yet experienced. ABG's are usually quite capable of functioning this way. They do not find it a constraint. In fact, only 14 of 385 respondents on the questionnaire considered the lack of supervision the primary constraint to achieving results. But without adequate supervision, ABG's sometimes extend themselves beyond their capabilities. This was observed in one Latin American country with results detrimental to the farmers whom the ABG's intended to help.

Supervision does serve as a sign and a safeguard. It is a sign of the host country's interest in the project. It is a safeguard against ABG's over extending themselves. Some supervision is indeed necessary to direct the work of the volunteer.

The host agencies are not the only source of supervision. Less than half of the volunteers responding to the questionnaire indicated that their first source of supervision was the host institution. Volunteers are the primary source of supervision for 25% and the Peace Corps staff for 12% of the volunteers. The primary source of supervision as reported by ABG's and specialists is found in Table XII.

TABLE XII

ABG's IN AGRICULTURE QUESTIONNAIRE

First Source of Supervision and/or Assistance

Source	ABG's (130)	Specialists (219)	Total (349)
Peace Corps Staff	14%	11%	12%
Host Country Personnel	39%	47%	45%
Volunteers	27%	25%	25%
International Org.	11%	6%	8%
Other	9%	11%	10%

Some host country agencies who were reluctant to use ABG's because they felt that the ABG's would require supervision which they were unable to provide have resolved the problem by having Peace Corps provide volunteers to assist in the supervision of the ABG's. The host agency has to supervise one rather than many volunteers. The volunteer assisting in the supervision of the ABG's does not necessarily have to have an agricultural degree but would be completely familiar with the project, have technical competence comparable to the demands of the project, and possess some managerial ability. A number of volunteers were observed functioning effectively in liaison positions between host agencies and the volunteers.

The Potential Utilization of ABG's Is Not Being Realized

In most of the countries where Peace Corps operates, over 50% of the labor force is engaged in agriculture. The majority of these farmers are illiterate. Their knowledge of farming is basic. Yields are well below the potential. Yields, for example, of cereals are 50% below and of roots and tubers 30% below those of the developed countries. Per capita caloric consumption in almost all the developing countries is inadequate. Table XIII provides a comparison of selected agricultural development indicators for Peace Corps countries. The potential for development is obvious.

The key to improving agricultural production in the developing countries is increasing the productivity of the small land holders. In most instances, the larger land holdings are better managed, use modern technology, and have access to production inputs and markets. The small holders still have potential for increasing yields with the introduction of modern technology and the formulation of services supportive to agriculture, e.g. credit, marketing systems, etc.

Trained manpower is needed to work with the small holders. These are the traditional farmers who have had little, if any, training in agriculture. They are victims of inefficient delivery and marketing systems which increase their production costs and take from their profits. The small land holders number in the millions.

The trained manpower needed to meet this demand is not necessarily that which is specialized with an agricultural degree. This is not to say that people with agricultural degrees are not needed. They are desparately needed. But so are organizers, instructors and managers who can get down to the level of the small scale operators, relate to them, gain their confidence, and transfer them knowledge and skills commensurate with their capacity to receive. ABG's have been effective at this level, when programmed, trained and supported in the manner described above.

TABLE XIII

SELECTED AGRICULTURAL INDICATORS
IN PEACE CORPS COUNTRIES

	Cereals Yield (kg/ha)	Roots & Tubers Yield (kg/ha)	Percent of Labor Force in Agriculture	Literacy Rate	Protein/ Capita (grams)	Calorie Consump- tion Per Capita
Developing Countries	1279	6909	63%	41%		
Haiti	1018	5113	83	10	39	21+% below
Chad	575	3047	91	5-10	73	11-20% below
Ethiopia	733	3132	85	5	69	1-10% below
Mauritania	201	996	85	1-5	75	21+% below
Niger	440	6125	91	5	72	1-10% below
Senegal	578	4002	76	5-10	64	1-10% below
Togo	812	6133	75	5-10	51	1-10% below
Upper Volta	394	2727	89	7	66	11-20% below
Central Aj.Rep.	773	5046	87	5-10	48	1-10% below
Liberia	1238	4305	74	9	36	adequate
Mali	585	10000	91	5	69	1-10% below
Nigeria	639	10066	67	25	60	1-10% below
Afganistan	1285	4600	82	8	56	11-20% below
India	1077	11311	72	34	53	1-10% below
Nepal	1656	5817	92	9	52	1-10% below
Botswana	436	4462	87	20	65	11-20% below
Cameroon	811	4892	82	10-15	59	1-10% below
Gabon	1080	2621	72	12	56	1-10% below
Kenya	1202	6772	80	20-25	71	adequate
Malawi	1110	6319	87	22	54	1-10% below
Zaire	723	9018	78	15-20	33	1-10% below
Guatemala	736	3625	65	38	59	1-10% below
Gambia	1363	6667	84	10	63	1-10% below
Ivory Coast	976	4227	81	20	60	adequate
Lesotho	742	N/A	89	N/A	N/A	N/A
Sierre Leone	1407	3312	73	10	49	1-10% below
Swaziland	1261	2750	82	36	N/A	N/A
Ecuador	1249	8778	53	67	49	11-20% below
Jamaica	927	10278	36	82	56	21+% below
Yemen	1643	4500	73	10	62	adequate
Dahomey	820	7786	52	20	55	1-10% below
Honduras	952	6436	67	45	58	adequate
Eastern Carribean	3175	11112	16	91	64	21+% below
Iran	937	9434	42	23	53	11-20% below
Morocco	1070	8511	61	14	64	1-10% below
Solomon Islands	1183	11963	N/A	N/A	N/A	N/A
Tonga	N/A	11839	N/A	5-10	N/A	N/A
Tunisia	1044	18605	46	30	54	11-20% below
Philippines	1265	5048	51	72	65	adequate
Indonesia	2252	6508	63	43	43	11-20% below
Mauritius	3333	17994	31	61	N/A	N/A

TABLE XIII
(cou'd)

	Cereals Yield (kg/ha)	Roots & Tubers Yield (kg/ha)	Percent of Labor Force in Agri.	Literacy Rate	Protein/ Capita (grams)	Calorie Consumption Per Capita
Chile	1702	9393	21	87	71	adequate
Colombia	2118	10176	47	73	51	1-10% below
El Salvador	1576	5760	60	60	51	1-10% below
Paraguay	1179	13067	53	86	74	adequate
Figi	2076	11048	N/A	N/A	N/A	N/A
Thailand	1779	9029	74	68	52	adequate
Nicaragua	1353	4196	43	58	70	adequate
Malaysia(Sabah	1883	8824				
Sarawak	1071	10920				
W.Mal.)	3033	7636	55	43	52	adequate
Venezuela	1421	8221	78	77	62	adequate
Brazil	1376	13288	44	67	64	adequate
Costa Rica	1370	8842	49	89	63	adequate
Dominican Republic	2801	10382	61	64	50	adequate
Republic of Korea	3608	14754	49	71	65	adequate
Developed Countries	2805	22271	11	97	73-101	adequate

Sources:

Cols. I - IV refer to 1974 data; FAO Production Yearbook, Vol. 28-1, 1974.

Cols. V, VI refer to 1972 and 1973 data; Selected Economic Data for the Less Developed Countries, July 1974, AID Statistics and Reports Division, Office of Financial Management.

Cols.VII, VIII refer to 1970 data from the Food and Agricultural Organization of the U.N.

*Notes:

1. Countries are ranked according to the number of areas in which they fall short of the level for developing countries. Indicators were not available for Belize, Bahrian, Malta, Micronesia, Oman and the Gilbert and Ellice Islands.

SECTION III

RECOMMENDATIONS

The findings of this study lead to the following recommendations:

Programming

1. Agricultural Program Officers Should Respond to the Applicant Availability Pool. Since skills other than the agricultural degree are needed for agricultural development, programmers should consider the available surplus skills (ABG's and others) and develop projects which can utilize these skills. At the same time, programmers should avoid being placed in a situation where they cannot deliver a skill. Short falls are inefficient, they are detrimental to the program, they are a waste of resources which are expended in recruiting. Meanwhile, a willing and available resource is left waiting because no project has been developed in which that resource could have been utilized.

2. The Number of Volunteers to Each Program Officer Should Be Limited. An agricultural program officer's responsibility includes: relating to host country nationals at various working levels; investigating sites; preparing technical training material; visiting and counseling volunteers and resolving their problems; and organizing work-shops and conferences. Ag programmers are managing as few as twenty and as many as a hundred volunteers. It is obvious that their efficiency diminishes as the number of volunteers increases. The optimum number is somewhere between twenty-five and forty.

3. Agricultural Program Officers Should Be Assisted in Developing Their Capabilities. Agricultural program officers must be qualified technically in their field; they must be capable of developing and managing projects; and they must know how to relate to host country nationals who are government officials and private farmers as wellas to volunteers as personal counselors and as technical advisors. It is a demanding job which requires many skills. To obtain quality performance from ag programmers, opportunities for service learning should be made available through work-shops, conferences, etc.

4. Agricultural Program Officers Should Develop Jobs and Not Merely Fill Job Requests. Jobs for ABG's have to be programmed*; i.e. they result from a carefully planned project in which activities, resource needs and objectives have been established. Programming is the responsibility of the ag programmer and that responsibility is not fulfilled by merely accepting a list of skills needed by a host agency.

---

* An excellent programming guide for agriculture is: Agriculture Programming In Africa by David Hopgood and Paul Wrobel. It is recommended that this 1968 publication be updated and applied to world wide Peace Corps agriculture programming.

Training

1. Technical Training for Agriculture Should Be Provided in that Place Where It Can Best Be Done. Local conditions facilitate the training of language and cross cultural studies. Technical training, however, may require specifically designed material, qualified instructors, and special facilities. These resources may be absent or nascent. In this case, third country of US training should be considered for the technical portion. The objective should be to provide quality. The additional costs are compensated by the benefits of more effective volunteer service. An inadequately trained volunteer can be useless and instead of a savings in training costs, the net result is a complete loss in the investment made to support a volunteer who is not making a contribution.

2. In-Service Technical Training Should Be Provided. In-Service technical training is an important ingredient to successful service in agriculture. Technical training is as necessary for volunteers as seminars and courses are for the technical development of employees of any organization. It is especially needed at an early stage of service, usually between the third and eight months. Technical training should continue in some form or other through service and is best conducted with the participation of the volunteers' counterparts or supervisors.

Support

1. Program Budgets Should Include Funds for Necessary Supplies and Equipment. The host agency is usually responsible for providing supplies and equipment but host agencies more often tha not fail to deliver the promised supplies and equipment leaving the volunteers inoperative. This is especially true for agricultural volunteers who depend on timely supplies or necessary transportation. Host agencies cannot be relied upon. The Peace Corps program budget should include funds for these items. The alternative is a double loss, either in a volunteer who is unable to work or in one who early terminates because of lack of supplies. Fielding 5% less volunteers would make available sufficient funds to adequately support the 95% remaining. And it is certainly more reasonable to have less volunteers who are adequately supported than more volunteers who are frustrated and ineffective. Host agencies should still be requested to provide supplies and equipment but the non-delivery should be anticipated and covered by Peace Corps.

2. Utilize Experienced Volunteer To Assist Host Agencies in Supervising ABG's. Supervision of volunteers is primarily the responsibility of the host agency. Host agencies, however, have been remiss in fulfilling this obligation either because they are not able to provide the personnel to do so or because they find ABG's too demanding on their time and effort. To assist host agencies in fulfilling this responsibility, experienced volunteers can be assigned to the host national supervisors to function as assistants and as liaisons between the host agency and the volunteers.

SECTION IV

CONCLUSIONS

ABG's, in general, are effective in that their service record (duration, achievements, etc.) is comparable to that of other volunteers working in agriculture. They are cost-effective in that their cost per month of service is the lowest in relation to the other skills used in agriculture.

The key variable affecting the service of the individual ABG in agriculture is the job. The kind of job where ABG's are most effective is described as one in which only a basic or specific knowledge of agriculture is needed but still challenges the ABG to use other talents. It requires primarily social skills and secondarily technical skills. Such a job requires the initiative and innovativeness of Peace Corps. Because the ABG is educated, they readily acquire the basic or specific agricultural knowledge through Peace Corps training. The ABG performs well with a minimum of supervision. When the ABG with a clearly defined, challenging job is adequately provided with supplies and equipment, he/she performs effectively in agriculture.

The increased costs incurred in properly utilizing ABG's, e.g. program development, quality training, and the provision of essential supplies and equipment, are compensated by the lower recruitment costs. These support costs, however, should not be considered additional in that they are required for all volunteers, irrespective of their skill. Specialists as well as ABG's require this kind of quality support.

In conclusion, there is a supply, i.e. ABG's are available. There is a demand, i.e. trained man-power to develop agriculture. But that demand needs to be identified. It is the challenge of PC to identify the demand which meets the known supply and to program accordingly.